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ABSTRACT

Research related to environmental education has consistently indicated that many students and young adults attribute a large amount of their knowledge of environmental concepts, problems, and issues to out-of-school (non-formal) educational settings and experiences. Data also indicate that students and young adults attribute much of their attitudes and values to similar experiences. This digest discusses out-of-school settings and experiences related to environmental education; effective strategies for teaching concepts; issue awareness in out-of-school environmental education; and trends in out-of-school environmental education. A list of ten selected references is included. (CW)

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TEACHING ENVIRONMENTAL EDUCATION USING OUT-OF-SCHOOL SETTINGS AND MASS MEDIA

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TEACHING ENVIRONMENTAL EDUCATION USING OUT-OF-SCHOOL SETTINGS AND MASS MEDIA

Research related to environmental education has consistently indicated that many students and young adults attribute a large amount of their knowledge of environmental concepts, problems, and issues to out-of-school (non-formal) educational settings and experiences. Data also indicate that students and young adults attribute much of their attitudes and values to similar experiences. When a school provides strong environmental education experiences or programs the impact of out-of-school experiences decrease, yet remain very significant (Iozzi and others, 1981; Iozzi and others, 1984).

What settings and experiences are included in out-of-school environmental education?

The field of out-of-school (non-formal) environmental education is broad and eclectic. Out-of-school education is usually defined as education that occurs in parks, nature centers, museums, aquaria, arboreta, public gardens, forest areas, wildlife refuges, camps, communities, and the home when the experiences are not part of a formal school-based program. It also includes mass media including television, radio, newspapers, and magazines when used at these sites or other non-school sites.

Goals and purposes of out-of-school environmental education programs are equally diverse. Some practitioners emphasize environmental awareness, while others emphasize acquiring knowledge, skill development, problem solving, and action programs.

What are some effective strategies and settings for use in out-of-school environmental education?

Learning environmental concepts

Research data indicate out-of-school experiences can be effective in helping students develop accurate concepts related to the environment . Real and familiar environments appear to be more effective than unfamiliar environments unless pre-visit instruction is provided. Pre-instructional materials that provide an overview of what is to be done and what may be learned help to improve learning in nearly all settings and with televised experiences.

A variety of out-of-school settings have been used effectively for developing environmental knowledge and concepts. Successful settings have included woodlands, zoos, community areas, environmental centers, and outdoor laboratories. These settings are most effective because they emphasize real objects and relationships between objects that individuals can see.

Data from studies reported in two reviews (Iozzi and others, 1981; Iozzi and others, 1984) indicate that many students report the mass media (primarily television) as their major source of environmental knowledge. For most adults, mass media is rated as an even more important source of environmental knowledge.

Learning environmental attitudes and values

A variety of instructional approaches in out-of-school settings have been found to be effective for encouraging positive environmental attitudes and values. Outdoor education experiences (including those at zoos, parks, caves, lakes, forests, and coastal areas) have been found to make a significant impact on the attitudes and values of students. Data also indicate that mass media, particularly television, has made a significant impact on students attitudes and values.

Among the instructional strategies that have been found to be effective in these settings for influencing the affective domain are case studies, field trips, community inventory projects, and community action projects. Preactivity and post activity experiences have been successful in helping to make the experiences more effective.

Learning issue awareness

Students frequently report mass media, especially television, as their major source of information on environmental issues. The exception to this finding tends to be when schools have established formal course experiences dealing with issues.

Studies regarding sources of information on environmental issues for adults indicate the same pattern; mass media, especially television, is the major source of information for them. Magazines and newspapers are also cited as major sources of information by adults.

Strategies that have been found effective for increasing awareness of issues by use of mass media include case studies, trend analysis, and issue analysis.

Outdoor settings have also been effective in teaching awareness of environmental issues. Strategies such as field trips to selected sites with environmental problems, action projects, and case studies are among the experiences that have been most effective.

Learning environmental action skills

A substantial amount of out-of-school environmental education activity and research has involved environmental action activities. Most have been designed to improve some aspect of the environment and develop individuals with more positive environmental attitudes and responsible environmental behavior.

Many studies, especially those using positive reinforcement (incentives) and negative reinforcement (fines, restricted activity), report treatments are effective in encouraging the desired environmental behavior. The effectiveness of the techniques, however, differs with different issues.

Reviewers of research (Iozzi, et al. 1981; Hungerford, 1984) report that many of the action activities dealt with relatively minor environmental problems (picking up litter, etc.) and that activities ought to focus on more serious problems (water pollution, hazardous wastes, population problems). Reports in more recent conference proceedings of The North American Association for Environmental Education (NAEE) indicate this is occurring.

Involving people in working to solve real environmental problems is clearly a role out-of-school

organizations can use to help improve the environment and to develop environmental action skills. The educational value of these activities could be improved by including issue analysis activities such as those developed by Hungerford and his associates (Hungerford, 1985) and/or materials developed by Iozzi (Iozzi, 1987).

Trends in out-of-school environmental education

During the past two years, there has been a resurgence in out-of-school environmental education activities. This has been due to increased visability and concern about local, national, and global environmental problems.

There has been an increase in the use of out-of-school settings for environmental education by both schools and non-formal organizations during the past several years.

Data indicate the mass media has provided more time on television and radio and more space in newspapers and magazines for environmental topics than in the late 1970's and early 1980's.

Organizations such as the Boy Scouts, Girl Scouts, 4-H, and others have been providing more emphasis on activities related to environmental quality and pollution prevention.

Several organizations in cities have developed centers for science, natural history, and related areas. Others have developed or expanded aquariums, zoos, wildlife areas, parks, and natural areas.

The importance of out-of-school educational experiences has been highlighted by increased financial support from federal agencies such as the National Science Foundation and the U.S. Department of Education; while this support has been for science and technology related activities, several of the projects supported have included environmental education. The United States Environmental Protection Agency and the Department of the Interior have also been involved in out-of-school environmental education activities and exploring ways to expand their support for these programs.

Summary

Out-of-school environmental education experiences account for a significant amount of what most people know about the environment, their attitudes and values toward the environment, their knowledge of environmental issues, and their knowledge of environmental actions.

Research data indicate ways to improve these experiences. Use of this information can help agencies and organizations achieve better results from theiractivities and be more effective in imparting environmental knowledge and motivating people to action.

The data also indicate that for school-age individuals these experiences can be combined very effectively with formal school programs and enhance the learning obtained from both. Schools and out-of-school organizations should work together to use the strengths of each organization, their resources, and settings.

The documented effectiveness of the mass media in reaching all age groups suggests that more planned programing should be done, especially through television and newspapers, for environmental education purposes. The potential of media clearly has not been used.

There are also several implications for school programs.

1. There is clearly a need to provide better environmental education programs (K-12) and to provide more time for environmental concepts,values, issues and skills.
2. Schools should develop cooperative programs with out-of-school organizations, particularly mass media, and organizations with unique sites in their own area. The potential for extending the schools impact and for providing unique experiences is great.
3. Schools should provide more instruction on the evaluation and use of information obtained through the mass media.

SELECTED REFERENCES

Disinger, John F., Ed. and John Opie, Ed. *Environmental Education: Progress Toward a Sustainable Future, Selected Papers from the 14th Annual Conference of the National Association for Environmental Education*, National Association for Environmental Education, Troy, OH, 1986. ED 281 761.

Hungerford, Harold R. and Others. *Investigating and Evaluating Environmental Issues and Actions: Skill Development Modules. A Curriculum Development Project Designed to Teach Students How to Investigate and Evaluate Sci-Related Social Issues. Modules I-VI.* 1985. ED 257 664.

Iozzi, Louis, Ed. *Research in Environmental Education, 1971-1980*. ERIC/SMEAC, Columbus, OH, 1981. ED 214 762.

Iozzi, Louis, Ed.; Clint L. Shepard, Ed. *Building Multicultural Webs through Environmental Education. Selected papers from the 17th Annual Conference of National Association for Environmental Education*. Orlando, Florida, October 14-19, 1988. ED 308 089.

Mann, Lori D. and Others. *Excellence in Environmental Education: Gaining Momentum for the Challenge Ahead.Selected papers from the 16th Annual Conference of National Association for Environmental Education*. Quebec City, Quebec, Canada, October 16-21, 1987. ED 301 417.

Marcinkowski, Thomas J. *Environmental Education Research Related to Ecological Foundations*, in Iozzi, Louis, Ed. *Summary of Research in Environmental Education, 1971-1982: Monographs in Environmental Education and Environmental Studies, Volume 2*, ERIC/SMEAC, Columbus, OH, 1984. ED 259 879.

McCrea, Edward J. and Glenn D. Weaver. *Nonformal Environmental Education: An Overview and Methodology for Evaluation in Monographs in Environmental Education and Environmental Studies, Volume 1*. ERIC/SMEAC, 1984. ED 251 293.

Roth, Charles E. and Linda G. Lockwood. *Activities for Using Local Communities as Environmental Education Sites*. ERIC/SMEAC, 1979. ED 194 349.

Specca, Lisa Yount and Louis A. Iozzi. *Environmental Education Research Related to The Affective Domain*, in Iozzi, Louis, Ed. *Summary of Research in Environmental Education, 1971-1982: Monographs in Environmental Education and Environmental Studies, Volume 2*. ERIC/SMEAC, Columbus, OH, 1984. ED 259 879.

Wisenmayer, Randall L. and Others. *Environmental Education Research Related to Issue Awareness*, in Iozzi, Louis, Ed. *Summary of Research in Environmental Education, 1971-1982: Monographs in Environmental Education and Environmental Studies, Volume 2*. ERIC/SMEAC, Columbus, OH, 1984 ED 259 879.

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